

The following day (Sept. 18, astronomical reckoning), and on Sept. 22, I also obtained meridian observations. The nucleus on the 17th and 18th was as sharply defined and as easily observable as a star of the first magnitude seen by daylight, and the form of the head was also clearly visible. Drawings of the head were made the same afternoon with the 6-inch equatorial. On Sept. 22, the nucleus, as seen in the transit circle, was comparable with a star of the third magnitude seen by daylight, and the rest of the head was barely distinguishable. Cloudy weather prevailed between Sept. 18 and 22, and for some time after the 22nd, preventing my obtaining a longer meridian series.

Advantage has been taken of every available opportunity to secure extra meridian observations since the 22nd.

The results of such determinations of the place of the comet as are immediately available are given in the accompanying paper. The appearance of the comet in the early morning has been, and still continues to be, most grand and imposing.

With a direct vision prism, whose plane of dispersion was placed at right angles to the direction of the comet's tail, a complete yellow monochromatic image of the head, and of a great portion of the tail, was easily visible for a week after perihelion, but this can no longer be seen now.

The changes in the form of the nucleus are of extreme interest, as also is the formation of a delicate outer envelope, whose axis is different from that of the tail.

The description of these changes, and copies of the drawings that have been made, will form the subject of a future communication.

The Great Comet (b) 1882—Disappearance at the Sun's Limb.
By W. H. Finlay, B.A.

On Sept. 7, at 17^h Cape mean time, I saw a comet with a large head and a tail about a degree in length. I secured a number of comparisons of the comet and Arg. -0° , 2229 with the 6-inch equatorial. On the 8th the brightness of both head and tail had increased very considerably. The southern edge of the tail was sharp and brighter than any other part, while the northern half seemed to stop short at some distance from the head. A nucleus was seen, situated towards the south of the centre of the head. I got several comparisons with Arg. -0° , 2256. Bad weather, and the want of comparison stars in the morning light, prevented my getting more observations with the 6-inch before perihelion passage.

On Sunday, Sept. 16 to 17, the comet was visible all day, and Dr. Elkin and myself made a large number of observations with the great Indian theodolite; unfortunately cloud prevented

my observing the comet on the meridian. In the afternoon I watched the comet with the 6-inch equatorial, and power 110, using a neutral-tint wedge on account of the glare of the Sun. I did not expect that the comet would reach the Sun before night, but they were rapidly approaching one another, and about 4.40 p.m. I found the Sun's limb visible at the edge of the field. The silvery light of the comet presented a striking contrast to the reddish-yellow of the Sun; the tail could only be traced to a very short distance now. After waiting some minutes I was about to observe differences of R.A., but the increasing rate at which the comet was closing up rendered it certain that it would reach the Sun in a very short time. By keeping the Sun's limb at the edge of the field I was able to follow the comet continuously right into the boiling at the limb. I lost sight of it suddenly at

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when the Sun's limb was boiling all about it. I fancied I caught a glimpse of it 3^s later, but was not sure. I then examined the Sun's disk very carefully, but could not see the slightest trace of the comet. I swept round the limb before the Sun disappeared behind the Lion Hill, but saw nothing. The sun was then very low and the definition bad.

Two measures with the micrometer about half an hour before the disappearance gave 4'' for the diameter of the comet's disk.

Royal Observatory, Cape of Good Hope :
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Observations of the Great Comet (b) 1882. By W. L. Elkin, Ph.D.

(*Communicated by Mr. Gill.*)

My first view of the comet was on Sept. 8. It then appeared to the unassisted eye about as bright as a star of the third or fourth magnitude, with a straight tail about $2\frac{1}{2}^{\circ}$ in length. The position angle of the tail, as measured at its origin with the heliometer at 4^h sidereal time, was $253^{\circ}.1$. The breadth of the coma at the nucleus was estimated at 40'' to 50'', the nucleus itself being a nebulous mass strongly condensed in the centre, some 10'' or 15'' in diameter, and admitting of very accurate observation with the heliometer as such. The southern edge of the tail was sharply defined for a considerable distance, but the northern one faded away some 12' to 15' from the head. The colour of the comet's light struck me as remarkably *white*, perhaps contrasting it from recollection with comet *Wells*, which was of a brilliant golden hue.

The morning sky was always completely clouded (with the exception of some momentary breaks, Sept. 9 and 15) till